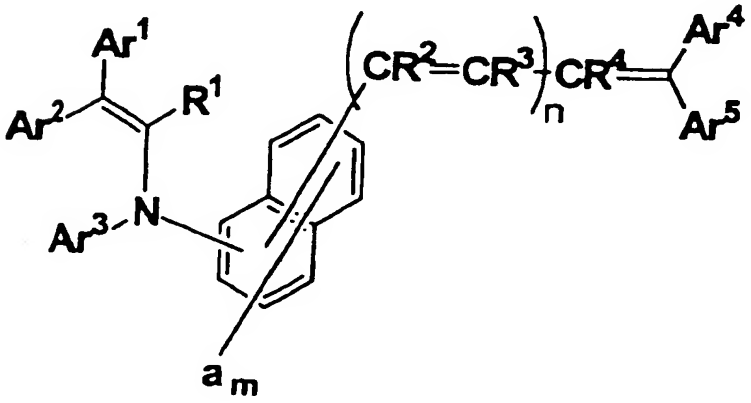
CLAIMS

1. An electrophotographic photoreceptor comprising:

a conductive substrate formed of a conductive material; and

a photosensitive layer disposed on the conductive substrate and containing oxotitanium phthalocyanine having a crystal form showing a diffraction peak at a Bragg angle 2θ (2θ ± 0.2°) of 27.2° in an X-ray diffraction spectrum and an enamine compound represented by the following general formula (1).

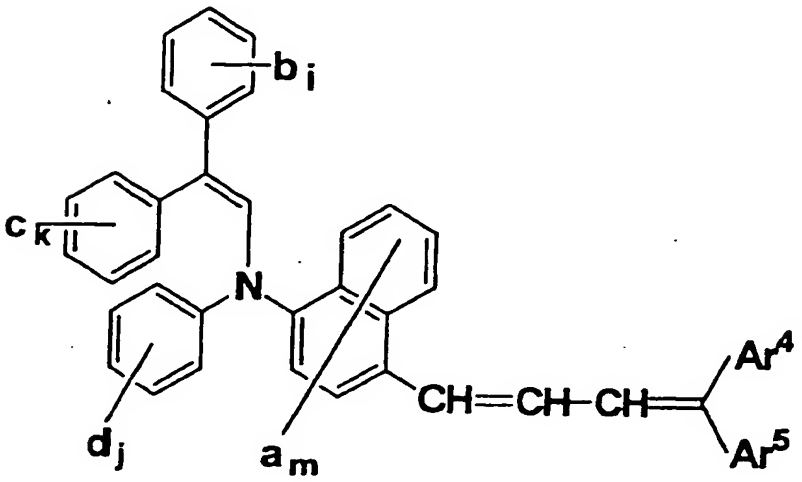


(1)

wherein Ar^1 and Ar^2 each represent an aryl group which may have a substituent or a heterocyclic group which may have a substituent; Ar^3 represents an aryl group which may have a substituent, a heterocyclic group which may have a substituent,

an aralkyl group which may have a substituent, or an alkyl group which may have a substituent; Ar^4 and Ar^5 each represent a hydrogen atom, an aryl group which may have a substituent, a heterocyclic group which may have a substituent, an aralkyl group which may have a substituent, or an alkyl group which may have a substituent, but it is excluded that Ar^4 and Ar^5 are hydrogen atoms at the same time; Ar^4 and Ar^5 may bond to each other via an atom or an atomic group to form a cyclic structure; "a" represents an alkyl group which may have a substituent, an alkoxy group which may have a substituent, a dialkylamino group which may have a substituent, an aryl group which may have a substituent, a halogen atom, or a hydrogen atom; m indicates an integer of from 1 to 6; when m is 2 or more, then the "a"s may be the same or different and may bond to each other to form a cyclic structure; R^1 represents a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; R^2, R^3 and R^4 each represent a hydrogen atom, an alkyl group which may have a substituent, an aryl group which may have a substituent, a heterocyclic group which may have a substituent, or an aralkyl group which may have a substituent; n indicates an integer of from 0 to 3; when n is 2 or 3, then the R^2s may be the same or different and the R^3s may be the same or different, but when n is 0, Ar^3 is a heterocyclic group which may have a substituent.

2. The electrophotographic phtoreceptor of claim 1, wherein the enamine compound represented by the general formula (1) is an enamine compound represented by the following general formula (2).



(2)

wherein "b", "c" and "d" each represent an alkyl group which may have a substituent, an alkoxy group which may have a substituent, a dialkylamino group which may have a substituent, an aryl group which may have a substituent, a halogen atom, or a hydrogen atom; i, k and j each indicate an integer of from 1 to 5; when i is 2 or more, then the "b"s may be the same or different and may bond to each other to form a cyclic structure; when k is 2 or more, then the "c"s may be the same or different and may bond to each other to form a cyclic structure; and when j is 2 or more, then the "d"s may be the same or different and may bond to each other to form a cyclic structure; Ar^4, Ar^5,

"a" and "m" represent the same as those defined in formula (1).

3. The electrophotographic photoreceptor of claim 1 or 2, wherein said oxotitanium phthalocyanine is oxotitanium phthalocyanine having a crystal form showing main diffraction peaks at the Bragg angles 2θ (2θ ± 0.2°) of 7.3°, 9.4°, 9.6°, 11.6°, 13.3°, 17.9°, 24.1°, and 27.2° in which a bundle of diffraction peaks formed by overlap of a diffraction peak at 9.4° and a diffraction peak at 9.6° shows a maximum intensity among the diffraction peaks described above, and the diffraction peak at 27.2° shows an intensity next to the maximum intensity in the X-ray diffraction spectrum.

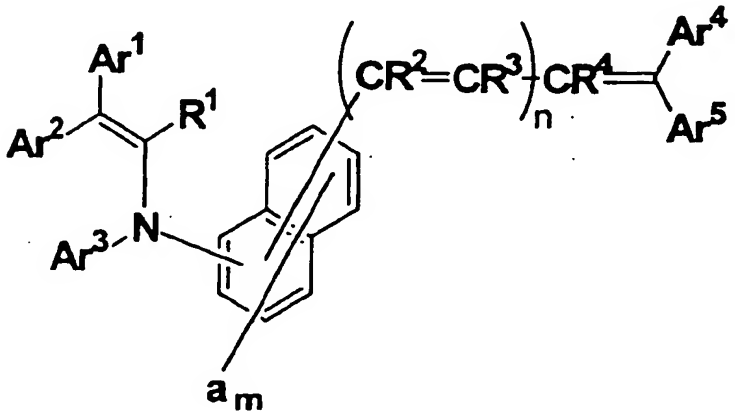
4. The electrophotographic photoreceptor of claim 1 or 2, wherein said oxotitanium phthalocyanine is oxotitanium phthalocyanine having a crystal form showing main diffraction peaks at the Bragg angles 2θ (2θ ± 0.2°) of 9.5°, 9.7°, 11.7°, 15.0°, 23.5°, 24.1°, and 27.3° in the X-ray diffraction spectrum.

5. The electrophotographic photoreceptor of claim 1 or 2, wherein said oxotitanium phthalocyanine is oxotitanium phthalocyanine having a crystal form showing main diffraction peaks at the Bragg angles 2θ (2θ ± 0.2°) of 9.0°, 14.2°, 23.9°, and 27.1° in the X-ray diffraction spectrum.

6. An electrophotographic photoreceptor comprising:

a conductive substrate comprising a conductive material, and

a photosensitive layer disposed on the conductive substrate and containing two or more kinds of metal phthalocyanine containing oxotitanium phthalocyanine and an enamine compound represented by the following general formula (1).



(1)

wherein Ar^1 and Ar^2 each represent an aryl group which may have a substituent or a heterocyclic group which may have a substituent; Ar^3 represents an aryl group which may have a substituent, a heterocyclic group which may have a substituent, an aralkyl group which may have a substituent, or an alkyl group which may have a substituent; Ar^4 and Ar^5 each represent

a hydrogen atom, an aryl group which may have a substituent, a heterocyclic group which may have a substituent, an aralkyl group which may have a substituent, or an alkyl group which may have a substituent, but it is excluded that Ar^4 and Ar^5 are hydrogen atoms at the same time; Ar^4 and Ar^5 may bond to each other via an atom or an atomic group to form a cyclic structure; "a" represents an alkyl group which may have a substituent, an alkoxy group which may have a substituent, a dialkylamino group which may have a substituent, an aryl group which may have a substituent, a halogen atom, or a hydrogen atom; m indicates an integer of from 1 to 6; when m is 2 or more, then the "a"s may be the same or different and may bond to each other to form a cyclic structure; R^1 represents a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; R^2, R^3 and R^4 each represent a hydrogen atom, an alkyl group which may have a substituent, an aryl group which may have a substituent, a heterocyclic group which may have a substituent, an aralkyl group which may have a substituent; n indicates an integer of from 0 to 3; when n is 2 or 3, then the R^2s may be the same or different and the R^3s may be the same or different, but when n is 0, Ar^3 is a heterocyclic group which may have a substituent.

7. The electrophotographic photoreceptor of claim 6, wherein said metal phthalocyanine is mixed crystals of

oxotitanium phthalocyanine and metal phthalocyanine other than said oxotitanium phthalocyanine.

8. The electrophotographic photoreceptor of claim 7, wherein the mixed crystals are mixed crystals of oxotitanium phthalocyanine and chlorogallium phthalocyanine.

9. The electrophotographic photoreceptor of claim 7, wherein the mixed crystals are mixed crystal of oxotitanium phthalocyanine and chloroindium phthalocyanine.

10. An electrophotographic photoreceptor comprising:

an conductive substrate formed of a conductive material, and

a photosensitive layer disposed on the conductive substrate and containing non-metal phthalocyanine and the enamine compound represented by the general formula (1).

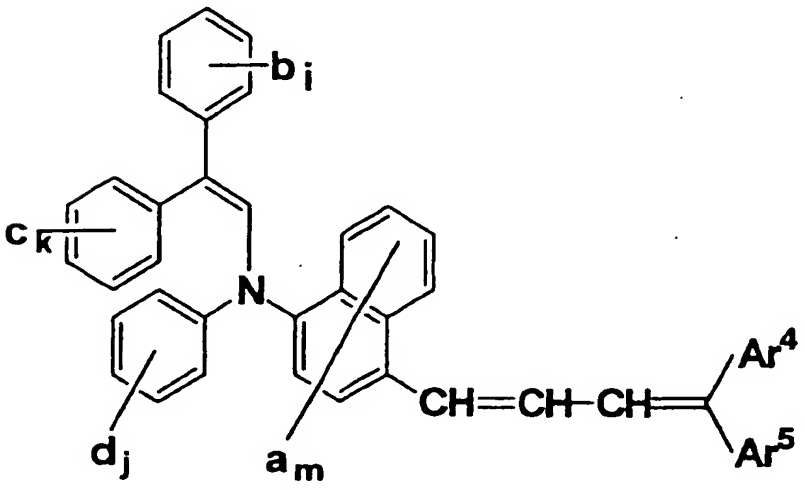
11. The electrophotographic photoreceptor of claim 10, wherein said non-metal phthalocyanine is X-type non-metal phthalocyanine.

12. The electrophotographic photoreceptor of claim 10 or 11, wherein the photosensitive layer further contains metal phthalocyanine.

13. The electrophotographic photoreceptor of claim 12, wherein said non-metal phthalocyanine and said metal phthalocyanine constitute mixed crystals of non-metal phthalocyanine and metal phthalocyanine.

14. The electrophotographic photoreceptor of claim 12 or 13, wherein said metal phthalocyanine is oxotitanium phthalocyanine.

15. The electrophotographic photoreceptor of any one of claims 6 to 14, wherein the enamine compound represented by the general formula (1) is an enamine compound represented by the following general formula (2).



(2)

wherein "b", "c" and "d" each represent an alkyl group

which may have a substituent, an alkoxy group which may have a substituent, a dialkylamino group which may have a substituent, an aryl group which may have a substituent, a halogen atom, or a hydrogen atom; i, k and j each indicate an integer of from 1 to 5; when i is 2 or more, then the "b"s may be the same or different and may bond to each other to form a cyclic structure; when k is 2 or more, then the "c"s may be the same or different and may bond to each other to form a cyclic structure; and when j is 2 or more, then the "d"s may be the same or different and may bond to each other to form a cyclic structure; Ar^4, Ar^5, "a" and "m" represent the same as those defined in formula (1).

16. An electrophotographic image forming method comprising:

a step of charging the surface of an electrophotographic photoreceptor;

a step of applying exposure to the charged surface to form electrostatic latent images; and

a step of developing the electrostatic latent images,

wherein the electrophotographic photoreceptor of any one of claims 1 to 15 is used as the electrophotographic photoreceptor.

17. The electrophotographic image forming method of claim 16, wherin a time from the start of exposure to the surface of the electrophotographic photoreceptor till the completion

of the development for the electrostatic latent images is 90 msec or less.

18. An electrophotographic apparatus comprising:

the electrophotographic photoreceptor of any one of claims 1 to 15;

charging means for charging a surface of the electrophotographic photoreceptor;

exposure means for applying exposure to the charged surface; and

developing means for developing electrostatic latent images formed by exposure.

19. An electrophotographic apparatus comprising:

the electrophotographic photoreceptor of any one of claims 1 to 15 which is supported rotatably to an apparatus main body;

photoreceptor driving means for rotationally driving the electrophotographic photoreceptor at a rotational circumferential speed of Vp;

charging means for charging an outer circumferential surface of the electrophotographic photoreceptor;

exposure means for applying exposure to the charged outer circumferential surface;

developing means for developing electrostatic latent images formed by exposure; and

control means for controlling an operation of the photoreceptor driving means such that a value d (= L/Vp) obtained by dividing distance L along the outer circumferential surface of the electrophotographic photoreceptor from an exposure position by the exposure means to a developing position by the developing means by the rotational circumferential speed Vp is 90 msec or less.

20. The electrophotographic apparatus of claim 19, wherein the electrophotographic photoreceptor has a cylindrical or circular columnar shape, and a diameter of the electrophotographic photoreceptor is 24 mm or more and 40 mm or less.